

## THE POLYGYRA TRIDENTATA COMPLEX

BY A. F. ARCHER

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6. *POLYGYRA FRAUDULENTA* Pils. Pl. 1, fig. 6, Lafayette, Roanoke Co., Va. Diam. 16 mm.

*Polygyra tridentata fraudulenta* Pilsbry 1894, Proc. Acad. Nat. Sc. Phila., p. 20, pl. 1, fig. 6. (Morgan Co., W. Va., opposite Hancock, Maryland).

*Triodopsis fallax* (of authors), W. G. Binney 1885, Man. Am. Land Shells, p. 292, fig. 314.

*Helix fallax*, Tryon 1887, Man. of Conch. (2), 3, p. 143, pl. 29, figs. 82-84.

The shell is similar in size to *P. tridentata*, but is less depressed. The umbilicus is wider and deeper. The aperture is dish or basin shaped, while that of *tridentata* is more level. The upper edge of the peristome as it leaves the body wall is bent downward at a considerable angle. The marginal tooth is situated low down on the peristome as in *P. tridentata juxtidentata*, but is more inflected, and is usually broader than in *tridentata*. Quite narrow marginal teeth occasionally appear. The basal tooth is also more prominent than in *tridentata*, and the parietal tooth is also more prominent. Whorls  $4\frac{3}{4}$ - $5\frac{3}{4}$ . In size the species ranges from 12-20 mm. in diameter.

Its geographical range extends from Ontario throughout Michigan and most of the middle states east of the Mississippi river. It occurs in northern Kentucky and throughout the Appalachian Mountains, southward into Northern Georgia and Northern Alabama. Beyond those limits it has not been reported. The forms found in Ontario and Michigan are medium sized and rather dark horn colored. Medium sized to large horn colored forms occur throughout the southern half of Ohio, Illinois and Indiana. Medium sized specimens are found in Kentucky. Large and often dark specimens occur in West Virginia and the mountains of the western part of Virginia. The species is rare in North Carolina except in that area closest to the Tennessee line. The forms from this area are often under middle size. In Monroe County on the Tennessee side of the boundary line small and often depressed forms occur. In this region many specimens have the marginal tooth reduced in size. Large specimens are found in Knox County, Tennessee.

7. *POLYGYRA FALLAX* (Say). Pl. 1, fig. 7. Manassas, Prince William Co., Va. Diam. 13 mm.

*Helix fallax* Say 1825, Journ. Phila. Acad. 5, p. 119. (Philadelphia, Pa.?)

*Triodopsis introferens* Bland, W. G. Binney 1885, Man. Am. Land Shells, p. 292, fig. 315.

*Helix introferens*, Tryon 1887, Man. of Conch. (2), 3, p. 145, pl. 30, figs. 96-98.

*Polygyra fallax*, Pilsbry 1894, Proc. A. N. S. P., p. 21.

The shell is depressed-turbinata, and usually smaller than *P. fraudulentata*. It has a higher spire and usually more whorls ( $5\frac{1}{4}$ - $5\frac{3}{4}$ ), the earlier ones being more closely crowded. The profile of the aperture is not basin shaped as in *fraudulentata*, but quite straight as in *tridentata*. The marginal tooth is much more deeply inflected than in *fraudulentata*, so that is bordered by the inner edge of the peristome. It may be either broad or narrow. The basal tooth is narrow and buttressed on the columellar side. The parietal tooth is less prominent, and resembles that of *tridentata* in appearance. The aperture is smaller and more constricted. The body whorl is not rounded as in *fraudulentata* but is somewhat angulate, a slight keel being present on the upper half. The diameter of the shell varies from 10.5-18 mm.

The range of this species is chiefly confined to the Appalachian Mountains, and extends from the Schuylkill drainage southward through the Susquehanna, Potomac, James River drainage and into central North Carolina and coastal South Carolina. It is, however, absent in the Smoky Mountain district of North Carolina. Its Appalachian distribution is mostly on the western slope, Holston River drainage, etc. It has been found in Northern Georgia. The forms found in South-Eastern Pennsylvania and Maryland are generally medium sized or small. In Dorchester County, Maryland, unusually large forms have been found by R. W. Jackson, although by contrast unusually small specimens have also been collected in the same county. In the Potomac region medium sized individuals are characteristic. In the western half of Virginia a variety of forms occur. At Natural Bridge, Rockbridge County, Virginia, some of the largest sized specimens (20 mm. diam.) occur, while in Wythe County, Virginia, extremely diminute forms have been collected. Small or medium sized forms occur in central North Carolina,

as well as in the region between Spartanburg County and Williamsburg County, South Carolina. Medium sized specimens have been collected in northern Ohio, eastern Kentucky, and eastern Tennessee. On the whole, the variation in form is not great. This species occurs in great numbers only in very few localities.

8. POLYGYRA FALLAX GONIOSOMA Pils. Pl. 1, fig. 8. Blountstown, Calhoun Co., Fla. Diam. 15 mm.

*Polygyra fallax goniosoma* Pilsbry 1912, Nautilus, 26, p. 80. (Blountstown, Florida).

*The shell has a higher and more angulated periphery than in P. fallax. The axial ribs are more pronounced above the periphery than below, while in fallax the ribs are finer and more even in size throughout the body whorl. The umbilicus is more constricted. The aperture is more constricted, while the marginal tooth is more deeply inflected. The whorls are also less convex. Whorls  $5\frac{1}{2}$  as in fallax. Although it has been suggested that this form may be related to P. vannostrandi, its dull surface, its fewer and more rapidly increasing whorls are rather more characteristic of P. fallax, and to that species it should be referred.*

*P. f. goniosoma* has been reported from Calhoun County in northwestern Florida. It is remarkable that this form occurs at some distance from the lower limits of the distribution of *P. fallax*.

9. POLYGYRA VANNOSTRANDI (Bland). Pl. 1, fig. 9. Aiken, Aiken Co., So. Car. Diam. 115 mm.

*Helix Van Nostrandi* Bland 1875, Ann. of Lyc. of Nat. Hist. of N. Y., 11, p. 200. (Aiken, South Carolina).

*Triodopsis Van Nostrandi* Bland 1878, Terrestrial Air-Breathing Mollusks, 5, p. 312, fig. 206.

*Helix Van Nostrandi*, Tryon 1887, Man. of Conch. (2), 3, p. 145, pl. 30, fig. 99.

This species has a small shell, the largest specimens (about 12 mm. in diameter) approaching smaller specimens of *P. fallax* in size and appearance. *It differs in being higher spired with less rapidly increasing whorls. Whorls usually more numerous ( $5\frac{1}{2}$ - $6\frac{1}{2}$ ). Axial sculpture the same in both species, but in the case of vannostrandi the surface of the shell is shinier. The umbilicus is smaller and shallower, and the periphery of the body whorl is higher. The aperture is situated lower down and*

forms a smaller proportion of the height of the shell. The edge of the peristome is rounded off instead of being sharp. The parietal tooth is often prominent and the marginal tooth is nearer the base, but it is otherwise quite similar. The basal tooth is higher, sharper and more strongly buttressed on the columellar side.

This species ranges from coastal South Carolina through central Georgia, and just over the border into Alabama. Its range begins where that of *P. fallax* leaves off. There is comparatively little variation throughout its range.

10. POLYGYRA VANNOSTRANDI ALABAMENSIS Pils. Pl. 1, fig. 10.  
Wetumpka, Elmore Co., Ala. Diam. 10.5 mm.

*Polygyra alabamensis* Pilsbry 1902, Nautilus, 16, p. 30. (Auburn, Alabama).

*Polygyra vannostrandii alabamensis*, Walker 1928, Terrestrial Shell-Bearing Moll., of Ala., Univ. Mich. Mus. Zool., Misc. Publ. no. 18, p. 24, fig. 28.

This variety is similar to *P. vannostrandii* in appearance. The spire is lower while the whorls are more tightly coiled. The umbilicus is wider. The basal tooth is blunter and the marginal tooth is less inflected.

This variety practically replaces *P. vannostrandii* in Alabama. It is widely distributed in the eastern half of the state.

11. POLYGYRA HOPETONENSIS (Shutt.). Pl. 1, fig. 11. Hopeton Landing, Appling Co., Ga. Diam. 12 mm.

*Helix hopetonensis* Shuttleworth 1852, Bern. Mittheil, p. 198. (Hopeton, Georgia).

*Helix Hopetonensis*, Reeve 1852, Conch. Icon. 5 (Helix), fig. 709.

*Triodopsis Hopetonensis*, W. G. Binney 1885, Man. Am. Land Shells., p. 384, fig. 418.

*Helix Hopetonensis*, Tryon 1887, Man. of Conch, (2), 3, p. 144, pl. 30, figs. 94-95.

The shell varies in size (diameter 99-125 mm.). It is closest to *P. tridentata* in external appearance, but is shinier. In sculpture it is somewhat coarse, but in this respect *tridentata* occasionally exceeds it. It contrasts with *tridentata* in having a narrower umbilicus. The tooth structure is quite different. The parietal lamella is long, curved and shallow. The marginal tooth is broad, rounded, slightly inflected, and situated halfway down the peristome. The basal tooth is sharp and buttressed on the parietal side.

This species is coastal, and its range extends from Berkley, Virginia, into northern Florida. It ranges throughout the eastern coastal belt of North and South Carolina. It is remarkably uniform in color and size throughout its range, the largest specimens examined coming from St. Augustine, Florida.

12. *POLYGYRA HOPETONENSIS CHARLESTONENSIS* Maz. Pl. 1, fig. 12. St. Peter's Cemetery, Charleston, So. Car. Diam. 9.5 mm.

*Polygyra hopetonensis charlestonensis*, W. G. Mazyck 1913, Cat. of Moll. of South Carolina, p. 7. (Charleston, South Carolina).

This variety has several distinguishable peculiarities. It is exactly like *P. hopetonensis* in external appearance. In size it is often smaller. *The parietal lamella is shorter and smaller. The marginal tooth is smaller and uninflected. The basal tooth is small, smoother, undifferentiated, and without a buttress.*

This form so far has only been reported from Charleston, South Carolina, and its environs.

13. *POLYGYRA HOPETONENSIS OBSOLETA* Pils. Pl. 1, fig. 13. Newburn, Craven Co., No. Car. Diam. 12 mm.

*Polygyra fallax obsoleta* Pilsbry 1884, Nautilus, 7, p. 140.

*Polygyra hopetonensis obsoleta*, J. B. Henderson 1907, Nautilus, 21, p. 7.

The shell of this species is externally exactly like *P. hopetonensis*. Its distinguishing characteristic is the *lack of the marginal and basal teeth, whose places are taken by slight thickenings*. It has been reported from Craven and New Hanover Counties, North Carolina, and it may be limited to North Carolina.

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## NOTES ON THE NOMENCLATURE OF HAWAIIAN HELICINIDAE

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In Dr. A. J. Wagner's classification of Helicinidae<sup>1</sup> the Hawaiian species known to him were referred to the three genera *Sturanya*, *Aphanoconia* and *Orobophana*. No genotypes of these new genera were designated. H. B. Baker in 1922

<sup>1</sup> Denkschr. K. Akad. Wissensch. Wien, Bd. 77, pp. 357-450. 1905.